

Amendments to the Claims:

This listing of claims replaces all prior versions and listings of claims in the application:

Listing of Claims:

1. (Currently Amended) A purified peptide comprising the amino acid sequence (I):  
Xaa<sub>1</sub> Xaa<sub>2</sub> Xaa<sub>3</sub> Xaa<sub>4</sub> Xaa<sub>5</sub> Cys<sub>6</sub> Cys<sub>7</sub> Xaa<sub>8</sub> Xaa<sub>9</sub> Cys<sub>10</sub> Cys<sub>11</sub> Xaa<sub>12</sub> Xaa<sub>13</sub> Xaa<sub>14</sub> Cys<sub>15</sub> Xaa<sub>16</sub>  
Xaa<sub>17</sub> Cys<sub>18</sub> Xaa<sub>19</sub> Xaa<sub>20</sub> Xaa<sub>21</sub> (SEQ ID NO:119) wherein: Xaa<sub>1</sub> Xaa<sub>2</sub> Xaa<sub>3</sub> Xaa<sub>4</sub> Xaa<sub>5</sub> is Asn  
Ser Ser Asn Tyr (SEQ ID NO:121) or is missing or Xaa<sub>1</sub> Xaa<sub>2</sub> Xaa<sub>3</sub> Xaa<sub>4</sub> is missing.
2. (Original) The purified peptide of claim 1 wherein Xaa<sub>5</sub> is Asn, Trp, Tyr, Asp, or Phe.
3. (Original) The purified peptide of claim 1 wherein Xaa<sub>5</sub> is Thr or Ile.
4. (Original) The purified peptide of claim 1 wherein Xaa<sub>5</sub> is Tyr, Asp or Trp.
5. (Original) The purified peptide of claim 1 wherein Xaa<sub>8</sub> is Glu, Asp, Gln, Gly or Pro.
6. (Original) The purified peptide of claim 1 wherein Xaa<sub>9</sub> is Leu, Ile, Val, Ala, Lys,  
Arg, Trp, Tyr or Phe.
7. (Original) The purified peptide of claim 1 wherein Xaa<sub>9</sub> is Leu, Ile, Val, Lys, Arg,  
Trp, Tyr or Phe.
8. (Original) The purified peptide of claim 1 wherein Xaa<sub>12</sub> is Asn, Tyr, Asp or Ala.
9. (Original) The purified peptide of claim 1 wherein Xaa<sub>13</sub> is Ala, Pro or Gly.
10. (Original) The purified peptide of claim 1 wherein Xaa<sub>14</sub> is Ala, Leu, Ser, Gly, Val,  
Glu, Gln, Ile, Leu, Lys, Arg, or Asp.

11. (Original) The purified peptide of claim 1 wherein Xaa<sub>16</sub> is Thr, Ala, Asn, Lys, Arg, Trp.
12. (Original) The purified peptide of claim 1 wherein Xaa<sub>17</sub> is Gly, Pro or Ala.
13. (Original) The purified peptide of claim 1 wherein Xaa<sub>19</sub> is Trp, Tyr, Phe, Asn or Leu.
14. (Original) The purified peptide of claim 1 wherein Xaa<sub>19</sub> is Lys or Arg.
15. (Original) The purified peptide of claim 1 wherein Xaa<sub>20</sub> Xaa<sub>21</sub> is AspPhe or Xaa<sub>20</sub> is Asn or Glu and Xaa<sub>21</sub> is missing.
16. (Original) The purified peptide of claim 1 wherein Xaa<sub>19</sub>Xaa<sub>20</sub> Xaa<sub>21</sub> is missing.
17. (Currently Amended) A purified peptide comprising the amino acid sequence:  
Asn Ser Ser Asn Tyr Cys Cys Glu Tyr Cys Cys Asn Pro Ala Cys Thr Gly Cys Tyr (SEQ ID NO:[~~---~~]28; ~~MD-915~~).
18. (Currently Amended) A purified peptide comprising the amino acid sequence:  
Cys Cys Glu Tyr Cys Cys Asn Pro Ala Cys Thr Gly Cys Tyr (SEQ ID NO:[~~--~~]31; ~~MD-1100~~).
19. (Currently Amended) A purified peptide consisting of the amino acid sequence:  
Asn Ser Ser Asn Tyr Cys Cys Glu Tyr Cys Cys Asn Pro Ala Cys Thr Gly Cys Tyr (SEQ ID NO:[~~---~~]28 ~~MD-915~~).
20. (Currently Amended) A purified peptide consisting of the amino acid sequence:  
Cys Cys Glu Tyr Cys Cys Asn Pro Ala Cys Thr Gly Cys Tyr (SEQ ID NO:[~~--~~]31; ~~MD-1100~~).

21. (Currently Amended) A method for treating a gastrointestinal disorder in a patient comprising administering a purified peptide comprising the amino acid sequence: Asn Ser Ser Asn Tyr Cys Cys Glu Leu Cys Cys Asn Pro Ala Cys Thr Gly Cys Tyr (SEQ ID NO:[--]26; ~~MM 416776~~).

22. (Currently Amended) A method for treating a gastrointestinal disorder in a patient comprising administering a purified peptide comprising the amino acid sequence: Asn Ser Ser Asn Tyr Cys Cys Glu Tyr Cys Cys Asn Pro Ala Cys Thr Gly Cys Tyr (SEQ ID NO:[---]28; ~~MD 915~~).

23. (Currently Amended) A method for treating a gastrointestinal disorder in a patient comprising administering a purified peptide comprising the amino acid sequence: Cys Cys Glu Leu Cys Cys Asn Pro Ala Cys Thr Gly Cys Tyr (SEQ ID NO:[--]29; ~~MM416774~~).

24. (Currently Amended) A method for treating a gastrointestinal disorder in a patient comprising administering a purified peptide comprising the amino acid sequence: Cys Cys Glu Tyr Cys Cys Asn Pro Ala Cys Thr Gly Cys Tyr (SEQ ID NO:[--]29; ~~MD 1100~~).

25. (Currently Amended) A purified polypeptide comprising an amino acid sequence of any of:

Asn Ser Ser Asn Tyr Cys Cys Glu Leu Cys Cys Asn Pro Ala Cys Trp Gly Cys Tyr  
(SEQ ID NO:[--]27);

Cys Cys Glu Leu Cys Cys Asn Pro Ala Cys Trp Gly Cys Tyr (SEQ ID NO:[---]30);

Asn Cys Cys Glu Leu Cys Cys Asn Pro Ala Cys Thr Gly Cys Tyr (SEQ ID NO:[---]32);

Asn Cys Cys Glu Leu Cys Cys Asn Pro Ala Cys Trp Gly Cys Tyr (SEQ ID NO:[---]33);

Asn Cys Cys Glu Phe Cys Cys Asn Pro Ala Cys Thr Gly Cys Tyr (SEQ ID NO:[---]34);

Asn Cys Cys Glu Tyr Cys Cys Asn Pro Ala Cys Thr Gly Cys Tyr (SEQ ID NO:[---]35);

Asn Cys Cys Glu Trp Cys Cys Asn Pro Ala Cys Thr Gly Cys Tyr (SEQ ID NO:[---]36);

Asn Cys Cys Glu Arg Cys Cys Asn Pro Ala Cys Thr Gly Cys Tyr (SEQ ID NO:[---]37);

Asn Cys Cys Glu Lys Cys Cys Asn Pro Ala Cys Thr Gly Cys Tyr (SEQ ID NO:[---]38);  
Asn Ser Ser Asn Tyr Cys Cys Glu Leu Cys Cys Asn Pro Ala Cys Thr Gly Cys Tyr Asp Phe  
(SEQ ID NO:[---]39);  
Asn Ser Ser Asn Tyr Cys Cys Glu Leu Cys Cys Asn Pro Ala Cys Trp Gly Cys Tyr Asp Phe  
(SEQ ID NO:[---]40);  
Asn Ser Ser Asn Tyr Cys Cys Glu Phe Cys Cys Asn Pro Ala Cys Thr Gly Cys Tyr Asp Phe  
(SEQ ID NO:[---]41);  
Asn Ser Ser Asn Tyr Cys Cys Glu Tyr Cys Cys Asn Pro Ala Cys Thr Gly Cys Tyr Asp Phe  
(SEQ ID NO:[---]42);  
Asn Ser Ser Asn Tyr Cys Cys Glu Trp Cys Cys Asn Pro Ala Cys Thr Gly Cys Tyr Asp Phe  
(SEQ ID NO:[---]43);  
Asn Ser Ser Asn Tyr Cys Cys Glu Arg Cys Cys Asn Pro Ala Cys Thr Gly Cys Tyr Asp Phe  
(SEQ ID NO:[---]44);  
Asn Ser Ser Asn Tyr Cys Cys Glu Lys Cys Cys Asn Pro Ala Cys Thr Gly Cys Tyr Asp Phe  
(SEQ ID NO:[---]45);  
Cys Cys Glu Leu Cys Cys Asn Pro Ala Cys Thr Gly Cys Tyr Asp Phe (SEQ ID NO:[---]46);  
Cys Cys Glu Leu Cys Cys Asn Pro Ala Cys Trp Gly Cys Tyr Asp Phe (SEQ ID NO:[---]47);  
Cys Cys Glu Phe Cys Cys Asn Pro Ala Cys Thr Gly Cys Tyr Asp Phe (SEQ ID NO:[---]48);  
Cys Cys Glu Tyr Cys Cys Asn Pro Ala Cys Thr Gly Cys Tyr Asp Phe (SEQ ID NO:[---]49);  
Cys Cys Glu Trp Cys Cys Asn Pro Ala Cys Thr Gly Cys Tyr Asp Phe (SEQ ID NO:[---]50);  
Cys Cys Glu Arg Cys Cys Asn Pro Ala Cys Thr Gly Cys Tyr Asp Phe (SEQ ID NO:[---]51);  
Cys Cys Glu Lys Cys Cys Asn Pro Ala Cys Thr Gly Cys Tyr Asp Phe (SEQ ID NO:[--]52);  
Asn Cys Cys Glu Leu Cys Cys Asn Pro Ala Cys Thr Gly Cys Tyr Asp Phe (SEQ ID NO:[--]53);  
Asn Cys Cys Glu Leu Cys Cys Asn Pro Ala Cys Trp Gly Cys Tyr Asp Phe (SEQ ID NO:[---]54);  
Asn Cys Cys Glu Phe Cys Cys Asn Pro Ala Cys Thr Gly Cys Tyr Asp Phe (SEQ ID NO:[---]55);  
Asn Cys Cys Glu Tyr Cys Cys Asn Pro Ala Cys Thr Gly Cys Tyr Asp Phe (SEQ ID NO:[---]56);  
Asn Cys Cys Glu Trp Cys Cys Asn Pro Ala Cys Thr Gly Cys Tyr Asp Phe (SEQ ID NO:[---]57);  
Asn Cys Cys Glu Arg Cys Cys Asn Pro Ala Cys Thr Gly Cys Tyr Asp Phe (SEQ ID NO:[---]58);  
Asn Cys Cys Glu Lys Cys Cys Asn Pro Ala Cys Thr Gly Cys Tyr Asp Phe (SEQ ID NO:[---]59);  
Gln Ser Ser Asn Tyr Cys Cys Glu Tyr Cys Cys Asn Pro Ala Cys Thr Gly Cys Tyr

(SEQ ID NO:[---]67);

Asn Thr Ser Asn Tyr Cys Cys Glu Tyr Cys Cys Asn Pro Ala Cys Thr Gly Cys Tyr

(SEQ ID NO:[---]68);

Asn Leu Ser Asn Tyr Cys Cys Glu Tyr Cys Cys Asn Pro Ala Cys Thr Gly Cys Tyr

(SEQ ID NO:[---]69);

Asn Ile Ser Asn Tyr Cys Cys Glu Tyr Cys Cys Asn Pro Ala Cys Thr Gly Cys Tyr

(SEQ ID NO:[---]70);

Asn Ser Ser Gln Tyr Cys Cys Glu Tyr Cys Cys Asn Pro Ala Cys Thr Gly Cys Tyr

(SEQ ID NO:[---]71);

Ser Ser Asn Tyr Cys Cys Glu Tyr Cys Cys Asn Pro Ala Cys Thr Gly Cys Tyr

(SEQ ID NO:[---]72);

Gln Ser Ser Gln Tyr Cys Cys Glu Tyr Cys Cys Asn Pro Ala Cys Thr Gly Cys Tyr

(SEQ ID NO:[---]73);

Ser Ser Gln Tyr Cys Cys Glu Tyr Cys Cys Asn Pro Ala Cys Thr Gly Cys Tyr

(SEQ ID NO:[---]74);

Asn Ser Ser Asn Tyr Cys Cys Glu Ala Cys Cys Asn Pro Ala Cys Thr Gly Cys Tyr

(SEQ ID NO:75);

Asn Ser Ser Asn Tyr Cys Cys Glu Arg Cys Cys Asn Pro Ala Cys Thr Gly Cys Tyr

(SEQ ID NO:76);

Asn Ser Ser Asn Tyr Cys Cys Glu Asn Cys Cys Asn Pro Ala Cys Thr Gly Cys Tyr

(SEQ ID NO:77);

Asn Ser Ser Asn Tyr Cys Cys Glu Asp Cys Cys Asn Pro Ala Cys Thr Gly Cys Tyr

(SEQ ID NO:78);

Asn Ser Ser Asn Tyr Cys Cys Glu Cys Cys Cys Asn Pro Ala Cys Thr Gly Cys Tyr

(SEQ ID NO:79);

Asn Ser Ser Asn Tyr Cys Cys Glu Gln Cys Cys Asn Pro Ala Cys Thr Gly Cys Tyr

(SEQ ID NO:80);

Asn Ser Ser Asn Tyr Cys Cys Glu Glu Cys Cys Asn Pro Ala Cys Thr Gly Cys Tyr

(SEQ ID NO:81);

Asn Ser Ser Asn Tyr Cys Cys Glu Gly Cys Cys Asn Pro Ala Cys Thr Gly Cys Tyr

(SEQ ID NO:82);

Asn Ser Ser Asn Tyr Cys Cys Glu His Cys Cys Asn Pro Ala Cys Thr Gly Cys Tyr

(SEQ ID NO:83);

Asn Ser Ser Asn Tyr Cys Cys Glu Ile Cys Cys Asn Pro Ala Cys Thr Gly Cys Tyr

(SEQ ID NO:84);

Asn Ser Ser Asn Tyr Cys Cys Glu Lys Cys Cys Asn Pro Ala Cys Thr Gly Cys Tyr

(SEQ ID NO:85);

Asn Ser Ser Asn Tyr Cys Cys Glu Met Cys Cys Asn Pro Ala Cys Thr Gly Cys Tyr

(SEQ ID NO:86);

Asn Ser Ser Asn Tyr Cys Cys Glu Phe Cys Cys Asn Pro Ala Cys Thr Gly Cys Tyr

(SEQ ID NO:87);

Asn Ser Ser Asn Tyr Cys Cys Glu Pro Cys Cys Asn Pro Ala Cys Thr Gly Cys Tyr

(SEQ ID NO:88);

Asn Ser Ser Asn Tyr Cys Cys Glu Ser Cys Cys Asn Pro Ala Cys Thr Gly Cys Tyr

(SEQ ID NO:89);

Asn Ser Ser Asn Tyr Cys Cys Glu Thr Cys Cys Asn Pro Ala Cys Thr Gly Cys Tyr

(SEQ ID NO:90);

Asn Ser Ser Asn Tyr Cys Cys Glu Trp Cys Cys Asn Pro Ala Cys Thr Gly Cys Tyr

(SEQ ID NO:91);

Asn Ser Ser Asn Tyr Cys Cys Glu Val Cys Cys Asn Pro Ala Cys Thr Gly Cys Tyr

(SEQ ID NO:92);

Cys Cys Glu Ala Cys Cys Asn Pro Ala Cys Thr Gly Cys Tyr (SEQ ID NO:93);

Cys Cys Glu Arg Cys Cys Asn Pro Ala Cys Thr Gly Cys Tyr (SEQ ID NO:94);

Cys Cys Glu Asn Cys Cys Asn Pro Ala Cys Thr Gly Cys Tyr (SEQ ID NO:95);

Cys Cys Glu Asp Cys Cys Asn Pro Ala Cys Thr Gly Cys Tyr (SEQ ID NO:96);

Cys Cys Glu Cys Cys Cys Asn Pro Ala Cys Thr Gly Cys Tyr (SEQ ID NO:97);

Cys Cys Glu Gln Cys Cys Asn Pro Ala Cys Thr Gly Cys Tyr (SEQ ID NO:98);

Cys Cys Glu Glu Cys Cys Asn Pro Ala Cys Thr Gly Cys Tyr (SEQ ID NO:99);

Cys Cys Glu Gly Cys Cys Asn Pro Ala Cys Thr Gly Cys Tyr (SEQ ID NO:100);

Cys Cys Glu His Cys Cys Asn Pro Ala Cys Thr Gly Cys Tyr (SEQ ID NO:101);

Cys Cys Glu Ile Cys Cys Asn Pro Ala Cys Thr Gly Cys Tyr (SEQ ID NO:102);  
Cys Cys Glu Lys Cys Cys Asn Pro Ala Cys Thr Gly Cys Tyr (SEQ ID NO:103);  
Cys Cys Glu Met Cys Cys Asn Pro Ala Cys Thr Gly Cys Tyr (SEQ ID NO:104);  
Cys Cys Glu Phe Cys Cys Asn Pro Ala Cys Thr Gly Cys Tyr (SEQ ID NO:105);  
Cys Cys Glu Pro Cys Cys Asn Pro Ala Cys Thr Gly Cys Tyr (SEQ ID NO:106);  
Cys Cys Glu Ser Cys Cys Asn Pro Ala Cys Thr Gly Cys Tyr (SEQ ID NO:107);  
Cys Cys Glu Thr Cys Cys Asn Pro Ala Cys Thr Gly Cys Tyr (SEQ ID NO:108);  
Cys Cys Glu Trp Cys Cys Asn Pro Ala Cys Thr Gly Cys Tyr (SEQ ID NO:109);  
Cys Cys Glu Val Cys Cys Asn Pro Ala Cys Thr Gly Cys Tyr (SEQ ID NO:110);  
Asn Ser Ser Asn Tyr Cys Cys Glu Leu Cys Cys Asn Pro Ala Cys Thr Gly Cys Tyr  
(SEQ ID NO:[--]26; ~~MM 416776~~); and  
Cys Cys Glu Leu Cys Cys Asn Pro Ala Cys Thr Gly Cys Tyr (SEQ ID NO:[--]29; ~~MM 416774~~).  
Cys Cys Glu Tyr Cys Cys Asn Pro Ala Cys Thr Gly Cys (SEQ ID NO:125)  
Cys Cys Glu Arg Cys Cys Asn Pro Ala Cys Thr Gly Cys (SEQ ID NO:127)  
Cys Cys Glu Asn Cys Cys Asn Pro Ala Cys Thr Gly Cys (SEQ ID NO:128)  
Cys Cys Glu Asp Cys Cys Asn Pro Ala Cys Thr Gly Cys (SEQ ID NO:129)  
Cys Cys Glu Cys Cys Cys Asn Pro Ala Cys Thr Gly Cys (SEQ ID NO:130)  
Cys Cys Glu Gln Cys Cys Asn Pro Ala Cys Thr Gly Cys (SEQ ID NO:131)  
Cys Cys Glu Glu Cys Cys Asn Pro Ala Cys Thr Gly Cys (SEQ ID NO:132)  
Cys Cys Glu Gly Cys Cys Asn Pro Ala Cys Thr Gly Cys (SEQ ID NO:133)  
Cys Cys Glu His Cys Cys Asn Pro Ala Cys Thr Gly Cys (SEQ ID NO:134)  
Cys Cys Glu Ile Cys Cys Asn Pro Ala Cys Thr Gly Cys (SEQ ID NO:135)  
Cys Cys Glu Lys Cys Cys Asn Pro Ala Cys Thr Gly Cys (SEQ ID NO:136)  
Cys Cys Glu Met Cys Cys Asn Pro Ala Cys Thr Gly Cys (SEQ ID NO:137)  
Cys Cys Glu Phe Cys Cys Asn Pro Ala Cys Thr Gly Cys (SEQ ID NO:138)  
Cys Cys Glu Pro Cys Cys Asn Pro Ala Cys Thr Gly Cys (SEQ ID NO:139)  
Cys Cys Glu Ser Cys Cys Asn Pro Ala Cys Thr Gly Cys (SEQ ID NO:140)  
Cys Cys Glu Thr Cys Cys Asn Pro Ala Cys Thr Gly Cys (SEQ ID NO:141)  
Cys Cys Glu Trp Cys Cys Asn Pro Ala Cys Thr Gly Cys (SEQ ID NO:142)  
Cys Cys Glu Val Cys Cys Asn Pro Ala Cys Thr Gly Cys (SEQ ID NO:143)

26. (Original) A method for treating a gastrointestinal disorder in a patient comprising administering the peptide of claim 1.

27. (Original) A method for treating a gastrointestinal disorder in a patient comprising administering the peptide of claim 25.

28. (Currently amended) A method for treating a gastrointestinal disorder in a patient comprising administering a GC-C receptor agonist, a pharmaceutical acceptable carrier and a second therapeutic agent selected from the group consisting of acid reducing agents including proton pump inhibitors (~~e.g. omeprazole, esomeprazole, lansoprazole, pantoprazole and rabeprazole~~) and H2 receptor blockers (~~e.g. cimetidine, ranitidine, famotidine and nizatidine~~), promotility agents including 5HT receptor agonists (~~e.g. Zelnorm~~) and motilin agonists, anti-inflammatory agents, antispasmodics, antidepressants and laxatives (~~e.g. MiraLax~~) and analgesic agents.

29. (Currently amended) A method for treating a gastrointestinal disorder in a patient comprising administering the peptide of any of the claims 1, 17-20 and 25, a pharmaceutical acceptable carrier and a second therapeutic agent selected from the group consisting of acid reducing agents including proton pump inhibitors (~~e.g. omeprazole, esomeprazole, lansoprazole, pantoprazole and rabeprazole~~) and H2 receptor blockers (~~e.g. cimetidine, ranitidine, famotidine and nizatidine~~), promotility agents including 5HT receptor agonists (~~e.g. Zelnorm~~) and motilin agonists, anti-inflammatory agents, antispasmodics, antidepressants and laxatives (~~e.g. MiraLax~~) and analgesic agents.

30. (Original) The method of any of claims 21-24, 26, 27 and 28 wherein the gastrointestinal disorder is a gastrointestinal motility disorder.

31. (Original) The method of any of claims 21-24, 26, 27 and 28 wherein the gastrointestinal disorder is selected from the group consisting of a gastrointestinal motility



disorder, irritable bowel syndrome, chronic constipation, a functional gastrointestinal disorder, gastroesophageal reflux disease, functional heartburn, dyspepsia, functional dyspepsia, nonulcer dyspepsia, gastroparesis, chronic intestinal pseudo-obstruction, colonic pseudo-obstruction, Crohn's disease, ulcerative colitis, inflammatory bowel disease and post-operative ileus.

32. (Original) A method for treating obesity comprising administering the peptide of any of claims 1, 17-20 and 25.

33. (Original) A method for treating congestive heart failure comprising administering the peptide of any of claims 1, 17-20 and 25.

34. (Original) A method for treating benign prostatic hyperplasia comprising administering the peptide of any of claims 1, 17-20 and 25.

35. (Currently Amended) The purified peptide of any of claims 1, 17, 18 and 25 wherein the polypeptide comprises the amino acid sequence DF; QHNPR (SEQ ID NO:111); VQHNPR (SEQ ID NO:112); VRQHNPR (SEQ ID NO:113); VRGQHNPR (SEQ ID NO:114); VRGPQHNPR (SEQ ID NO:115); VRGPRQHNPR (SEQ ID NO:116); VRGP RRQHNPR (SEQ ID NO:117); or RQHNPR (SEQ ID NO:118) fused to its amino terminus or its carboxy terminus.

36. (Original) The purified peptide of any of claims 1, 17, 18 and 25 wherein the purified polypeptide comprises the amino acid sequence of an analgesic peptide selected from the group consisting of endomorphin-1, endomorphin-2, nocistatin, dalargin, lupron, and substance P fused to its amino terminus or its carboxy terminus.

37. (Original) The purified peptide of any of claims 1, 17, 18 and 25 wherein the polypeptide includes no more than 10 additional amino acids at its amino terminus or carboxy terminus or both and wherein the polypeptide is a guanylate cyclase receptor agonist.

38. (Original) The purified peptide of claim 1 wherein wherein: Xaa<sub>1</sub> Xaa<sub>2</sub> Xaa<sub>3</sub> Xaa<sub>4</sub> Xaa<sub>5</sub> is missing; Xaa<sub>8</sub> is Glu; Xaa<sub>9</sub> is Leu, Ile, Lys, Arg, Trp, Tyr or Phe; Xaa<sub>12</sub> is Asn; Xaa<sub>13</sub> is Pro; Xaa<sub>14</sub> is Ala; Xaa<sub>16</sub> is Thr, Ala, Lys, Arg, Trp; Xaa<sub>17</sub> is Gly; Xaa<sub>19</sub> is Tyr or Leu; and Xaa<sub>20</sub> Xaa<sub>21</sub> is AspPhe or is missing.

39. (Original) A method for treating a patient suffering from constipation, the method comprising administering the polypeptide of any of claims 1, 17-20 and 25.

40. (Original) A method for increasing the activity of an intestinal guanylate cyclase (GC-C) receptor in a patient, the method comprising administering the polypeptide of any of claims 1, 17-20 and 25.

41. (Original) A method for increasing intestinal levels of cGMP in a patient, the method comprising administering the polypeptide of any of claims 1, 17-20 and 25.

42. (Original) The method of claim 41 wherein the levels of cGMP are increased in intestinal mucosa.

43. (Original) A method for increasing intestinal levels of cGMP in a patient, the method comprising administering a GC-C receptor agonist.

44. (Original) The method of claim 43 wherein levels of cGMP are increased in intestinal mucosa.

45. (Original) A method for increasing the activity of an intestinal guanylate cyclase (GC-C) receptor in a patient, the method comprising administering a GC-C receptor agonist.

46. (Original) A method for treating a gastrointestinal disorder in a patient comprising administering a GC-C receptor agonist.

47. (Original) The method of claim 46 wherein the gastrointestinal disorder is a gastrointestinal motility disorder.

48. (Original) The method of claim 46 wherein the gastrointestinal disorder is selected from the group consisting of a gastrointestinal motility disorder, irritable bowel syndrome, chronic constipation, a functional gastrointestinal disorder, gastroesophageal reflux disease, functional heartburn, dyspepsia, functional dyspepsia, nonulcer dyspepsia, gastroparesis, chronic intestinal pseudo-obstruction, colonic pseudo-obstruction, Crohn's disease, ulcerative colitis inflammatory bowel disease and post-operative ileus.

49. (Original) A method for treating obesity comprising administering a GC-C receptor agonist.

50. (Original) A method for treating congestive heart failure comprising administering a GC-C receptor agonist.

51. (Original) A method for treating benign prostatic hyperplasia comprising administering a GC-C receptor agonist.

52. (Original) A method for treating visceral pain comprising administering a GC-C receptor agonist.

53. (Original) A method for treating inflammation comprising administering a GC-C receptor agonist.

54. (Original) A method for treating constipation comprising administering a GC-C receptor agonist.

55. (Original) A method for treating visceral pain comprising administering the polypeptide of any of claims 1, 17-20 and 25.

56. (Original) A method for treating inflammation comprising administering the polypeptide of any of claims 1, 17-20 and 25.

57. (Original) A method for treating cystic fibrosis comprising administering the polypeptide of any of claims 1, 17-20 and 25.

58. (Original) A method for treating cystic fibrosis comprising administering a GC-C receptor agonist.

59. (Original) A pharmaceutical composition comprising the peptide of any of claims 1, 17-20 and 25 and a pharmaceutically acceptable carrier.

60. (Original) A pharmaceutical composition comprising the peptide of any of claims 1, 17-20 and 25 surrounded by an enteric coating.

61. (Original) A controlled release pharmaceutical composition comprising the peptide of any of claims 1, 17-20 and 25 and a biodegradable polymeric matrix.

62. (Currently amended) A pharmaceutical composition comprising the peptide of any of claims 1, 17-20 and 25, a pharmaceutically acceptable carrier and at least one analgesic agent selected from the group consisting of: Ca channel blockers (~~e.g., ziconotide~~), 5HT receptor agonists, 5HT receptor antagonists (~~for example 5HT3, 5HT4 and 5HT1 receptor antagonists~~), opioid receptor agonists (~~e.g., loperamide, fedotozine, and fentanyl, naloxone, naltrexone, methyl naloxone, nalmefene, cypridime, beta funaltrexamine, naloxonazine, naltrindole, and nor-binaltorphimine, morphine, diphenyloxylate, enkephalin pentapeptide, and trimebutine~~), NK1 receptor antagonists (~~e.g., ezlopitant and SR-14033, SSR-241585~~), CCK receptor agonists (~~e.g., lorexglumide~~), NK1 receptor antagonists, NK3 receptor antagonists (~~e.g., talnetant, osanetant SR-142801, SSR-241585~~), norepinephrine-serotonin reuptake inhibitors (~~NSRI; e.g., milnacipran~~), vanilloid and cannabinoid receptor agonists (~~e.g., arvanil~~), sialorphin, sialorphin-related peptides

63. (Original) A pharmaceutical composition comprising the peptide of any of claims 1, 17-20 and 25, a phosphodiesterase inhibitor and a pharmaceutically acceptable carrier.

64. (Original) A method for treating cancer, a respiratory disorder, a neurological disorder, a disorder associated with fluid and sodium retention, a disorder associated with carbonate imbalance, erectile dysfunction, an insulin-related disorder, or an inner ear disorder, the method comprising administering the peptide of any of claims 1, 17-20 and 25.

65. (Original) A method for treating cancer, a respiratory disorder, a neurological disorder, a disorder associated with fluid and sodium retention, a disorder associated with carbonate imbalance, erectile dysfunction, an insulin-related disorder, or an inner ear disorder, the method comprising administering a GC-C receptor agonist.

66. (Original) A method of producing the peptide of any of claims 1, 17-20 and 25, comprising providing a cell harboring a nucleic acid molecule encoding the polypeptide, culturing the cell under conditions in which the peptide is expressed, and isolating the expressed peptide.

67. (Original) A method of producing the peptide of any of claims 1, 17-20 and 25, comprising chemically synthesizing the peptide and then purifying the synthesized peptide.

68. (Original) A pharmaceutical composition comprising the peptide of any of claims 1, 17-20 and 25 and a natriuretic peptide such as atrial natriuretic peptide, brain natriuretic peptide, a C-type natriuretic peptide, a diuretic, or an inhibitor of angiotensin converting enzyme.

69. (Original) A pharmaceutical composition comprising the peptide of any of claims 1, 17-20 and 25 and a 5-alpha reductase inhibitor or an alpha adrenergic inhibitor.

70. (Currently amended) A pharmaceutical composition comprising the peptide of any of claims 1, 17-20 and 25 and gut hormone fragment peptide YY3-36, glp-1 (~~glucagon-like~~

~~peptide 1~~), exendin-4 (~~an inhibitor of glp-1~~), sibutramine, phentermine, phendimetrazine, benzphetamine hydrochloride (~~Didrex~~), orlistat (~~Xenical~~), diethylpropion hydrochloride (~~Tenuate~~), fluoxetine (~~Prozac~~), bupropion, ephedra, chromium, garcinia cambogia, benzocaine, bladderwrack (~~foeus vesiculosus~~), chitosan, nomame herba, galega (~~Goat's Rue, French Lilac~~), conjugated linoleic acid, L-carnitine, fiber (~~psyllium, plantago, guar fiber~~), caffeine, dehydroepiandrosterone, germander (~~teucrium chamaedrys~~), B-hydroxy- $\beta$ -methylbutyrate, or pyruvate.

71. (Original) A pharmaceutical composition comprising a GC-C receptor agonist and a natriuretic peptide such as atrial natriuretic peptide, brain natriuretic peptide, a C-type natriuretic peptide, a diuretic, or an inhibitor of angiotensin converting enzyme.

72. (Original) A pharmaceutical composition comprising a GC-C receptor agonist and a 5-alpha reductase inhibitor or an alpha adrenergic inhibitor.

73. (Currently amended) A pharmaceutical composition comprising a GC-C receptor agonist and gut hormone fragment peptide YY3-36, glp-1 (~~glucagon like peptide 1~~), exendin-4 (~~an inhibitor of glp-1~~), sibutramine, phentermine, phendimetrazine, benzphetamine hydrochloride (~~Didrex~~), orlistat (~~Xenical~~), diethylpropion hydrochloride (~~Tenuate~~), fluoxetine (~~Prozac~~), bupropion, ephedra, chromium, garcinia cambogia, benzocaine, bladderwrack (~~foeus vesiculosus~~), chitosan, nomame herba, galega (~~Goat's Rue, French Lilac~~), conjugated linoleic acid, L-carnitine, fiber (~~psyllium, plantago, guar fiber~~), caffeine, dehydroepiandrosterone, germander (~~teucrium chamaedrys~~), B-hydroxy- $\beta$ -methylbutyrate, or pyruvate.

74. (Original) A method for treating congestive heart failure comprising administering the peptide of any of claims 1, 17-20 and 25 and a natriuretic peptide such as atrial natriuretic peptide, brain natriuretic peptide, a C-type natriuretic peptide, a diuretic, or an inhibitor of angiotensin converting enzyme.

75. (Original) A method for treating benign prostatic hyperplasia comprising administering the peptide of any of claims 1, 17-20 and 25 and a 5-alpha reductase inhibitor or an alpha adrenergic inhibitor.

76. (Currently amended) A method for treating obesity comprising administering the peptide of any of claims 1, 17-20 and 25 and gut hormone fragment peptide YY3-36, glp-1 (~~glucagon-like peptide-1~~), exendin-4 (~~an inhibitor of glp-1~~), sibutramine, phentermine, phendimetrazine, benzphetamine hydrochloride (~~Didrex~~), orlistat (~~Xenical~~), diethylpropion hydrochloride (~~Tenuate~~), fluoxetine (~~Prozac~~), bupropion, ephedra, chromium, garcinia cambogia, benzocaine, bladderwrack (~~foeus vesiculosus~~), chitosan, nomame herba, galega (~~Goat's Rue, French Lilae~~), conjugated linoleic acid, L-carnitine, fiber (~~psyllium, plantago, guar fiber~~), caffeine, dehydroepiandrosterone, germander (~~teucrium chamaedrys~~), B-hydroxy- $\beta$ -methylbutyrate, or pyruvate.

77. (Original) A method for treating congestive heart failure comprising administering a GC-C receptor agonist and a natriuretic peptide such as atrial natriuretic peptide, brain natriuretic peptide, a C-type natriuretic peptide, a diuretic, or an inhibitor of angiotensin converting enzyme.

78. (Original) A method for treating benign prostatic hyperplasia comprising a GC-C receptor agonist and a 5-alpha reductase inhibitor or an alpha adrenergic inhibitor.

79. (Currently amended) A method for treating obesity comprising administering a GC-C receptor agonist and gut hormone fragment peptide YY3-36, glp-1 (~~glucagon-like peptide-1~~), exendin-4 (~~an inhibitor of glp-1~~), sibutramine, phentermine, phendimetrazine, benzphetamine hydrochloride (~~Didrex~~), orlistat (~~Xenical~~), diethylpropion hydrochloride (~~Tenuate~~), fluoxetine (~~Prozac~~), bupropion, ephedra, chromium, garcinia cambogia, benzocaine, bladderwrack (~~foeus vesiculosus~~), chitosan, nomame herba, galega (~~Goat's Rue, French Lilae~~), conjugated linoleic acid, L-carnitine, fiber (~~psyllium, plantago, guar fiber~~), caffeine, dehydroepiandrosterone, germander (~~teucrium chamaedrys~~), B-hydroxy- $\beta$ -methylbutyrate, or pyruvate.